DOCUMENT RESUME

ED 207 305 EC 140 048

AUTHOR Bradtke, Jane Silverman
TITLE Adaptive Devices for Aquatic Activities.
INSTITUTION American Alliance for Health, Physical Education, Recreation and Dance, Reston, Va. Information and Research Utilization Center.
PUB DATE Sep 79
NOTE 17p.
AVAILABLE FROM American Alliance for Health, Physical Education, Recreation and Dance, 1900 Association Dr., Reston, VA 22091 ($2.00).
JOURNAL CIT Practical Pointers; v3 n1 Sep 1979

EDRS PRICE MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS *Equipment; Games; *Physical Disabilities; *Swimming; *Teacher Developed Materials; Teaching Methods

ABSTRACT

The article describes commercial as well as improvised and homemade equipment for teaching physically handicapped persons to swim. Descriptions address equipment for entering the pool (such as pool lifts, a transfer board, and a ramp); aids in the instructional process (kick boards, arm floats); and assorted games and materials (such as ropes, exercise bars, and plastic bottles). (CL)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

PRACTICAL POINTERS

American Alliance for
Health, Physical Education,
Recreation and Dance
Physical Education and Recreation
for the Handicapped: Information
and Research Utilization Center
1201 16th Street, N.W., Washington, D.C. 20036

ED207505

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)
This document has been reproduced as received from the person or organization originating it.
Minor changes have been made to improve reproduction quality.
Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

Volume 3, Number 1
September 1979

ADAPTIVE DEVICES FOR AQUATIC ACTIVITIES

Jane Silverman Bradtke

IN THIS ISSUE

GETTING INTO THE POOL..... 3

Commercial Equipment..... 3
Improvised and Homemade Equipment..... 4

EVERYONE'S IN THE WATER -- WHAT NEXT?..... 7

Commercial Equipment..... 7
Improvised and Homemade Equipment..... 11

RESOURCES FROM AAHPERD/IRUC 14

Assistive devices can be used so that individuals with handicapping conditions can participate in and benefit from various programs and activities. In no area can assistive devices be more crucial than in aquatics and swimming, whether programs be integrated or separated. Jane Silverman Bradtke, former AAHPER/IRUC Information and Materials Assistant, has brought together and presented information about different commercial and homemade devices which can be used in regular and special aquatic programs involving individuals with special needs; she has also illustrated many of these devices. For this needed and valuable contribution to participants, parents, and instructors alike, personal thanks, professional gratitude, and a rousing well done are extended to Jane Bradtke.

"PERMISSION TO REPRODUCE THIS MATERIAL IN MICROFICHE ONLY HAS BEEN GRANTED BY

Julian Stein

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

EC140048

AAHPERD Publications © 1979. • American Alliance for Health, Physical Education, Recreation and Dance, 1201 16th Street, N.W., Washington, D.C. 20036

Swimming, whether in lakes, ponds, oceans, or swimming pools is enjoyed by people all over the world. Successful aquatic experiences not only promote high levels of physical fitness and better health but provide enjoyable ways for participants to spend leisure hours while stimulating greater self-confidence and positive self-esteem. Individuals with handicapping conditions are not exceptions to this love of water. If individuals with handicapping conditions are not seen at community swimming pools on hot summer days or enjoying dips in nearby swimming holes, perhaps society has communicated to them by not providing opportunities for meaningful and adequate participaton in swimming programs that aquatic activities are dangerous, if not impossible, for them.

Increasing awareness of and sensitivity to interests, desires, and needs of individuals with handicapping conditions to join everyone else in all aspects of life--employment, education, and recreation--are evident. Legislation mandates that no person be denied benefits of, be discriminated against, or excluded from any program or activity solely because of a handicapping condition. Individuals with all types and severities of handicapping conditions take part in aquatic activities, from swimming to water skiing, wading to scuba diving, diving to water polo. For the most part there is nothing that cannot be accomplished by individuals who have the appropriate combinations of will, equipment, training, and opportunities. Water may be the only place a child with muscular dystrophy or cerebral palsy is able to walk--the only place to join able-bodied peers on equal bases physically.

Aquatic programs can become places for changing attitudes. Children with handicapping conditions can experience being equals or better with able-bodied peers in games and activities. Able-bodied children can see classmates with handicapping conditions excel, seometimes beyond what able-bodied children themselves can do. Such successes are good lessons for all involved, and can carry over into other activities at school, on the playground, and at home.

This Practical Pointer--Adaptive Devices for Aquatic Activities--presents information about commercial and homemade equipment which can be used in swimming programs by individuals possessing different handicapping conditions. Having proper equipment can make the difference between successful and enjoyable swimming experiences and frustration and fear at not being able to perform certain skills while learning to swim. This is true with all children, but especially with children possessing handicapping conditions as they work to overcome a variety of inconveniences and impairments.

GETTING INTO THE POOL

Commercial Equipment

The first step to being able to swim in a pool is, obviously enough, to get into the pool. This is an important first step because a teacher sets the tone for new students. Don't rush a non-swimmer into a pool--it's an awfully scary situation for a person to get into a body of water with a stranger if he/she does not know the first thing about keeping afloat! Methods and approaches for these situations are not dealt within this Practical Pointer--emphasis is on adaptive devices and equipment. A bibliographic listing on page 14 includes resources dealing with instructional aspects of aquatic programs.

Devices to assist persons with various physical conditions--i.e., obesity, amputations, paraplegia, quadriplegia, cerebral palsy--enter pools are available from different commercial sources. Following is information about selected commercial pool-entry devices with source names, addresses, and brief descriptions of equipment and their functions.

Hydraulic Swimming Pool Lifter (North American Recreation Convertibles, P. O. Box 758, 33 Knowlton Street, Bridgeport, Connecticut, 06601). This device makes it possible for individuals with physical or multiple handicapping conditions to get in and out of swimming pools easily. A simple hydraulic jack system combines sixty-two inches of lift with ninety inches of horizontal swing and supports up to 400 pounds. This device is especially useful with obese individuals who are unable to get in and out of pools by themselves.

Vari Pod Platform (Dominion Aluminum Fabricating Limited, 3570 Hawkestone Road, Mississauga, Ontario, Canada). This movable pool floor can be positioned for any desired height or depth, and is designed to accommodate individual pools according to their designs, needs and criteria. Costs vary from several hundred to several thousand dollars depending on size and sophistication of operation. Floors can be made from aluminum or fiberglass with total or just portions of floors moveable. Floors can be designed to manual or hydraulic power lifting. Hydraulically powered floors can be raised to deck level where wheelchairs and stretchers can be taken onto the floor before it is lowered for safe pool entry.

Bath Trolly (Ortopedia Gmbtt, D2300 Kiel 14, P. O. Box 6409, Germany). A plastic seat on four casters--resembles a gym scooter--was designed to help leg amputees move from changing areas to pool or lakeside by propelling themselves with their arms. The seat has a slightly curbed backrest for stability and comfort; slots cut into it allow drainage of water.

G.E.G. Pool-Lift (G.E.G. Ltd., P. O. Box 282, King of Prussia, Pennsylvania, 19406). This pneumatically operated elevator chair allows safe and convenient entry into pools. The G.E.G. Pool Lift, constructed of stainless steel and rust proof materials, features leg and headrests. It can lift up to 320 pounds and is permanently secured to the deck of a pool. An air compressor, located in an area remote from the pool, can be included.

Hoyer Hoist (Ted Hoyer and Company, Department AL, 2222 Minnesota Street, Oshkosh, Wisconsin, 54901). Canvas stretcher suspended on a track can be used with quadriplegics and severely involved persons who can be transferred directly onto it from litter or wheelchair after which the hoist is lowered directly into a pool.

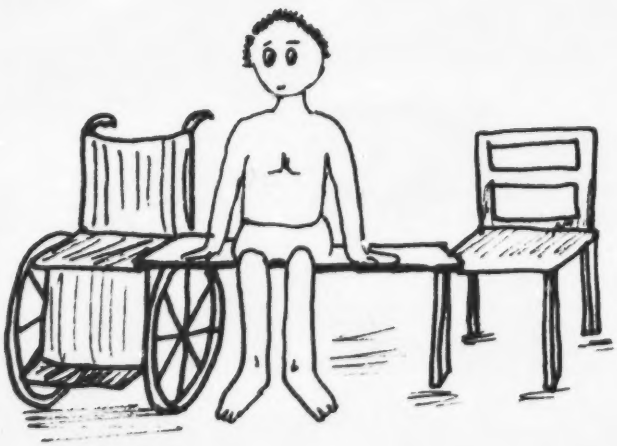
Improvised and Homemade Equipment

Commercial devices for pool-entry can be assets in making public swimming pools accessible to individuals with handicapping conditions. However, many facilities do not have funds for what can amount to a sizeable expense for such devices. This does not by any means excuse a facility from not becoming accessible. There are ways to assist in pool entry with no more expense than cost of a towel or chair!* Following are suggestions for adapted and homemade devices. It is hoped that they trigger more ideas from readers--remember chairs are not just for sitting and towels not just for drying!!!

Chair Lift. A wooden chair with a clear varnish or plastic finish and four helpers are all needed to accomplish this transfer. With the student seated in a chair, a helper on each side and one at the back of the chair, and a helper waiting in the water, the chair is picked up by the three out of the water helpers and placed with back legs at the edge of the pool; the helper in the water helps secure the chair. Helpers at the sides of the chair now enter the water. The three helpers now in the water lower the chair while the back person lends support and control. To get an individual out of the pool, simply reverse these procedures.

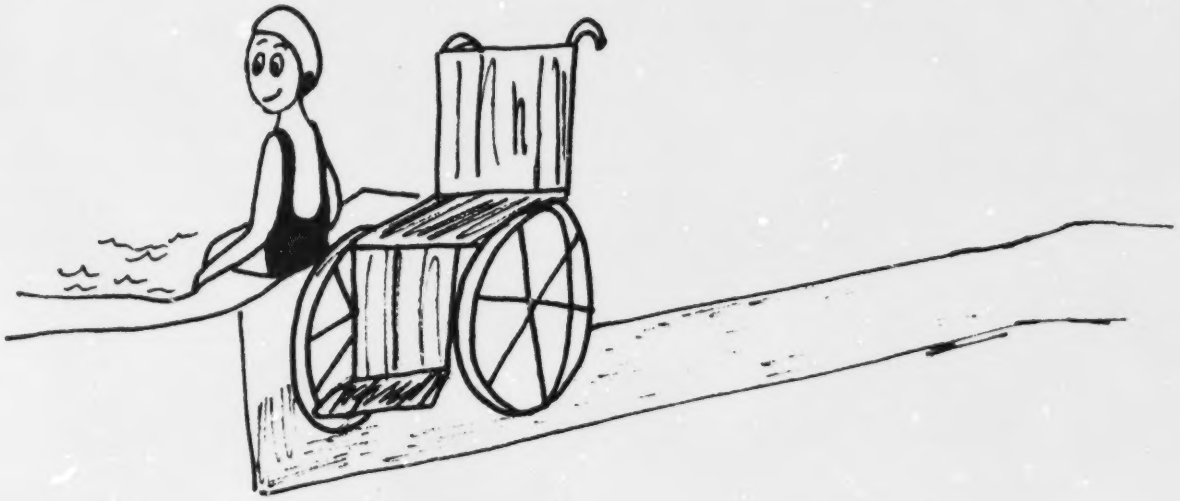
*Policy interpretations of Section 504 of the Rehabilitation Act of 1973 prohibit lifting or carrying individuals to circumvent requirements to make facilities barrier-free and accessible to all. Some procedures presented in the following section involve lifting and/or carrying individuals. The Office of Civil Rights has indicated that such procedures are acceptable during the transition period ending June 3, 1980. However, whether such procedures continue to be legal or not after the transition period can only be determined in terms of individuals with whom they are proposed for use. Individuals with severe handicapping conditions who require lifting in a variety of situations can also be lifted into and out of swimming pools in ways presented. However, these decisions cannot be generically or categorically determined but only in terms of individuals with whom they are proposed for use.

Towel Lift. A large beach towel or blanket is all that is necessary for this transfer process. A towel is placed so that half supports the student's back. The towel is gripped securely by two people at the sides who hold the edges close to the student's thighs with one hand and the back edges at the corners with their other hands. A person at the back holds the upper edge close to the student's shoulders. On signal all lift together with arms straight and move smoothly to the pool to lower in towel and student. Another helper waiting in the water lifts under the student's thighs with one hand and supports legs with the other hand. The student is lowered until sitting on the pool edge at which time the helper in the water places one arm at the student's back and the other around his/her knees and pulls as other helpers lift slightly. To get out of the pool, the water helper pulls and slips towel into position before handing ends to helpers on deck. Care must be taken to make sure the towel is well placed and the student balanced.

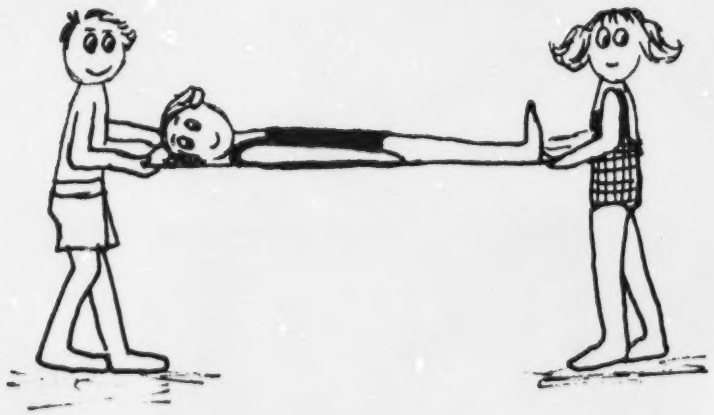


Transfer Board. A 12 inch by 33 inch board provides an excellent means for transfer to either a swimming pool or from one surface to another--i.e., from wheelchair to wooden chair. Place one end of the board underneath a student in a wheelchair and the other end on the surface to which he/she is to be transferred so that the student can slide across with as much or little assistance as necessary. A board with formica surface is excellent to facilitate sliding whether the student is wet or dry.

Ramp. For an outdoor swimming pool with surface at ground level, a ramp can be dug with the bottom of the slope ending nineteen inches--height of standard wheelchair seat--below the surface of the pool. The student can then slide from wheelchair to the edge of the pool and then lower him/herself into the pool.



Stretcher. A stretcher used to bring a student to the pool area can simply be lowered into the pool. Once in the pool the stretcher is slipped away and the student is then often the most independent and mobile of any time or situation.



EVERYONE'S IN THE WATER -- WHAT NEXT?

Commercial Equipment

Getting into the water is the first step. Now, instruction in swimming skills can begin. In the process of learning specific swimming skills, confidence and a love for water should also result not to mention improved levels of physical fitness, better muscle tone, greater range of motion, and more flexibility. Positive attitudes and good teaching techniques are important; inventive activities with proper equipment can assist in this process. Several companies produce equipment, toys, and assistive devices to aid in the instructional process. These companies are listed along with specific devices each manufactures and distributes.

Pull-Buoy Inc. (2511 Leach, Auburn Heights, Michigan, 48057).

- Water Saucers

  Made from Ethafoam and bound with colored plastic tape Water Saucers can be used in playing a variety of pool games, including water polo, saucer tag, keep away, and catch. They can also be used as a small kickboard or in water ballet routines.

- Unbreakable Arm Floats

  Made from Ethafoam these solid arm floats are held on with surgical rubber tubing. Once adjusted they easily slip on and off a learner's arms. These floats will not leak and thus last longer than inflatable versions; they can be used for extra buoyancy and help instill confidence in beginning swimmers.

- Kick Roller

  Used like a kickboard this aid looks like an oversized rolling pin made of Ethafoam with plastic handles. It is used to develop kicking skills necessary for independent floating.

- S-Board

  Designed to make a swimmer kick or sink, this device is made of strong white styrene; it is 1/8 inch thick, 12 inches wide, 16 inches long, and has two lengths of rubber tubing at its midsection to hold the hands in place. The top of the board is bent upwards and the bottom bent downwards to give the S shape. Although not suitable as a buoyancy aid, this board can spur swimmers to kick harder and thus develop greater leg strength.

- Kickboard Plow

  Similar to the Pull Buoy Drag this styrene plow fits onto any kickboard so as to help the user build leg strength while swimming. While the kickboard keeps the upper body on top of the water without arm movements, this plow makes the swimmer use more kicks per length of the pool.

. Thong Hand Paddles

These rectangular paddles have two rubber thongs in a V-shape to fit easily between middle and ring fingers. In swimming these paddles increase surface areas of the hands pressing against the water so as to improve efficiency and arm strength in strokes.

. Pull Buoy Drag

This strong white styrene drag fits onto any of the company's Pull Buoys to help swimmers build arm strength. The Pull Buoy itself keeps legs afloat without kicking, while this drag requires about one-third more arm pulls per length of the pool.

. Lap Counter

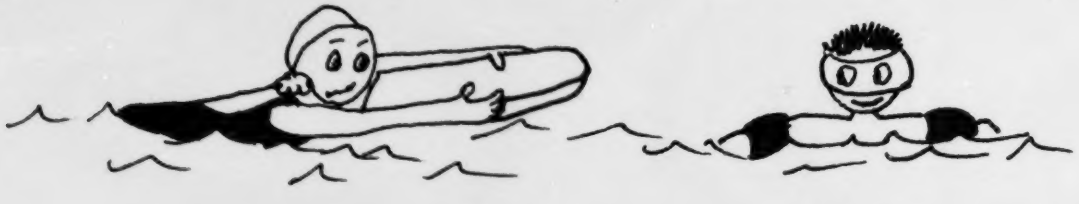
Large number boards are designed to stand at the end of a pool as easily visible indicators of numbers of lengths done by a swimmer. Plastic numbers are flipped over to count numbers of odd laps up to seventy-one that have been completed. These can be adapted for use in other physical education, recreation, or sport activities.

. Unbreakable Line Floats

These floats can be used for dividing different sections of a swimming area. Most common use is to divide shallow from deep ends; they can also be used to separate stations when swimmers of different abilities are receiving instruction in several classes simultaneously. Made from Ethafoam each has a 3/4 inch plastic insert through the middle to keep the rope from wearing away. Floats are four inches in diameter and can be ordered in six, eight, ten, or twelve inch lengths.

. Kickboard

Made of Ethafoam these kickboards will not break when bent, thrown, or jumped on, and will not flake off in the pool. Boards have rounded tops and squared-off bottoms; they can be used as swimming aids with reluctant and/or physically impaired swimmers. Gripping near the top of the board and keeping arms straight, a swimmer remains buoyant and can concentrate on strengthening leg muscles and improving technique without simultaneously having to think about arm strokes.



. Training Kit

Collection of training aids also sold separately by the company are contained in this kit which includes Thick Kickboard, Swim Goggles, Thong Hand Paddles, and Pull-Buoy. Swim goggles help protect swimmers from burning eyes and can make putting faces in water more acceptable for reluctant swimmers. All other items in the kit are mentioned above.

Cosom (Airlake Industrial Park, P. O. Box 701, Lakeville, Minnesota, 55044).

. Float Ball

These 3 3/4 inch diameter floating balls can be used in various activities by beginning and advanced swimmers. The balls which are red/white or blue/white have holes to accommodate up to a 1/4 inch line so as to make them servicable as markers. They can be used in swimming pool obstacle courses, relay games, various tossing and retrieving games, and various other activities. Bulk economy packs are available.

. Pool Toss-Um Game

This floating version of a lawn dart game can be played by participants who throw from different distances while treading water or while standing on the pool bottom or deck. This game consists of two twenty-four inch target hoops and four Toss-Ums which are weighted missles with rounded tops that float on the surface of the water. A variety of playing and scoring options are possible depending on participants and their skills. Because Toss-Ums have long handles, players can retrieve them in their mouths if they have limited use of hands.

. Diving Rings

Six yellow polyethylene rings are numbered and weighted. One suggested use for rings involves tossing them into the pool so that each swimmer in turn can dive and retrieve as many rings as possible. Numbers on retrieved rings are added with the first player socring a designated number of points winning. Each ring measures 7 1/4 inches in diameter and weighs 1 2/3 pounds.

GSA Athletic Equipment (600 North Pacific Avenue, San Pedro, California, 90733).

. Kik Board

Molded of polyethelene this aid has handles molded into the sides of its flat torpedo like shape. This is similar to Pull-Buoy Kick Roller (page 7) in use and purpose.

Belleair International (1016 Ponce De Leon Boulevard, Belleair, Florida, 33516).

. Schwimmflugel

Made in West Germany, these inflatable cuffs can be worn around arms above the elbows to help keep non-swimmers afloat. Cuffs are slipped on, inflated by blowing air into a valve, and then valves closed and pushed into air chambers so they do not protrude from the surface of the cuff. They can also be worn on thighs, lower legs, or combinations of arms and legs to assist in attaining independent functions in water. These are available in three sizes to fit infants, children, and adults.

Hilsinger Corporation (Plainville, Massachusetts, 02762).

. Eyeglass Floats

For persons who wear glasses these floats, about four inches long and one inch wide, can be fastened onto temples of eyeglass frames. It is recommended that one float be worn on each temple for glasses weighing less than 1 5/8 ounces and two floats on glasses weighing more.

Blue Grass Industries (Carlisle, Kentucky, 40311).

. Speedo Aqualift Swimsuit

This one piece nylon tricot swimsuit is constructed with an air bladder inside the front of the suit which is inflatable by blowing into a double safety valve located on the center front of the suit's scoop neck. When inflated this suit supports up to a 200-pound adult. An optional flotation collar attached to the suit can ofier added support to the neck and prevent the wearer from flipping over. As experience, ability, and confidence increase, the collar can be removed and the suit gradually deflated.

Recreonics (6202 La Pas Trail, Indianapolis, Indiana, 46268).

. Pull-Buoy

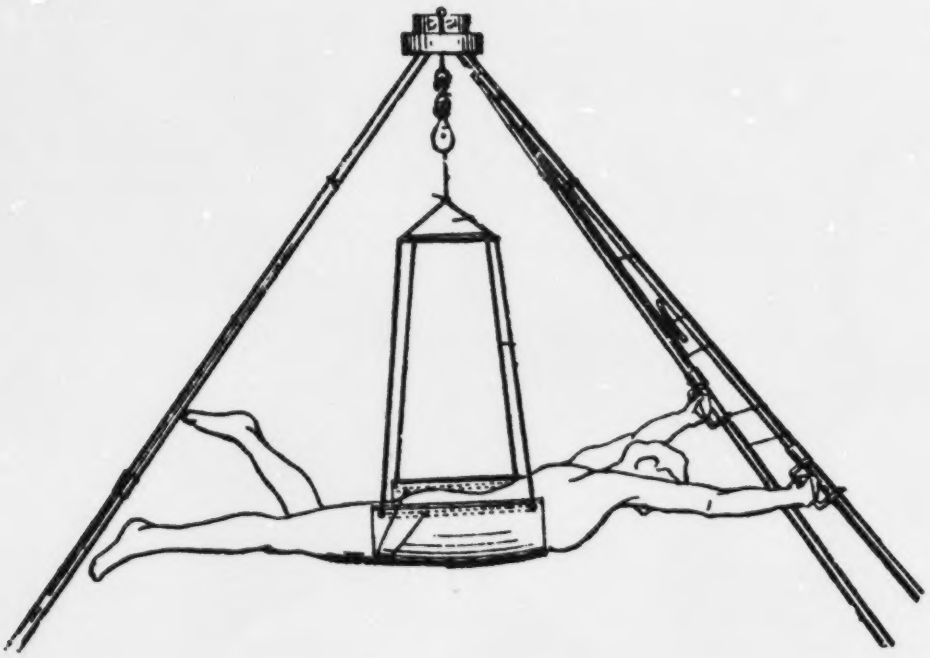
Two cylinders of Ethafoam are connected with one nylon cord through their widths at the top and bottom. The cord may be knotted to adjust space between the buoys to fit user's legs which are closed with one cylinder in front and the other in back. Swimmer can float in a horizontal position--face down or face up--and swim using only arms for propulsion. These can be used in combination with hand paddles for variation.

Suspended Aquatic Mentor (4022 Bedford Avenue, Brooklyn, New York, 11229).

. Suspended Aquatic Mentor

This easily assembled portable tripod has a canvas support suspended from the top. It allows complete freedom of movement and a full range of motion as the student who lies across the support is able to

practice movements without concern or fear of sinking. This can be used on deck as well as in water.



Stadiums Unlimited (Box 374, Grinnell, Iowa, 50112).

. Tot Dock

This is an underwater portable swimming pool platform which rests on the swimming pool floor at heights of six to twelve inches. This sturdy base is quite useful, especially in pools which have inadequate shallow areas. It can be assembled and disassembled in a matter of minutes. Sections stack upon each other for easy storage on deck when not in use.

Improvised and Homemade Equipment

As discussed in the section on pool entry devices, a facility may not have adequate funds to purchase much extra equipment or specific assistive devices. Certain items listed may not be necessary in the sense that an individual can learn to swim without them. However, considering that such devices help make instruction a more enjoyable process and give teachers new ways to teach old skills, they certainly add much to swimming programs. Many items can be constructed in a matter of minutes from the most common household items. Cost is negligible--results and rewards priceless!

Wash Cloths. Many times if a child will not submerge under water, a simple wash cloth provides all the help needed. By holding the cloth over his/her own face, many children will put their faces under water.

Boards/Towels. For improving certain strokes or body movements in water, boards or towels provide effective and inexpensive assistance. With aides holding both ends of a towel or board, a student can lie lengthwise and practice desired movements. Gradually lower the board or towel into the water until it can be removed makes for a smooth transition from out of water swimming to in-water swimming.

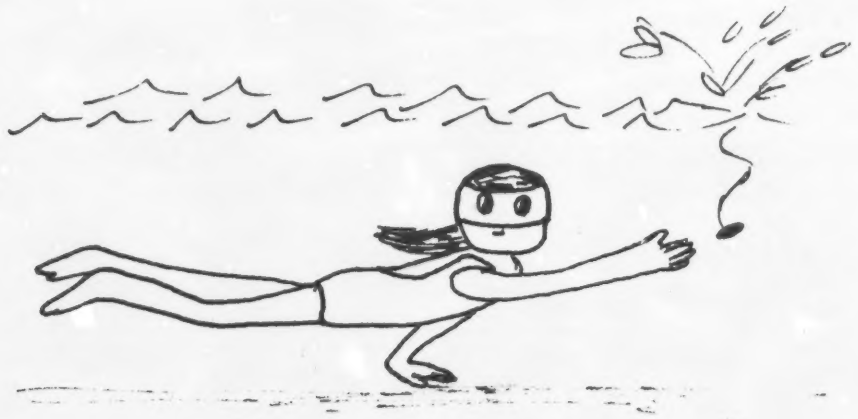
Broomstick with Plastic Bleach Bottles. Plastic Bleach bottles attached in barbell fashion to a broomstick make effective floatation devices to allow for free movement through water.

Bleach Bottles. Bleach bottles themselves attached to arms or legs make effective floatation devices. By gradually increasing amounts of water inside the bottles, reduction in buoyancy results and provides excellent muscle-building activity.

Ropes. Ropes attached to one side of a pool can be used by students to pull themselves across. This approach can be used to help build confidence in going across a pool and moving through water. Tying pieces of rope into loops provides rings for various ring-toss games, or dive-and-retrieve activities.

Wooden Bench. A wooden bench placed in the water provides an interesting object and challenge for students to swim under or over. Several benches in a pool make fun obstacle courses of circuit games which can include different tasks to be accomplished at each site.

Plastic Bottles, Coins. Diving and swimming underwater can be challenging for a student, but diving to find a coin or other small object can be down-right fun! Almost any small object can be used effectively and successfully for this particular activity.

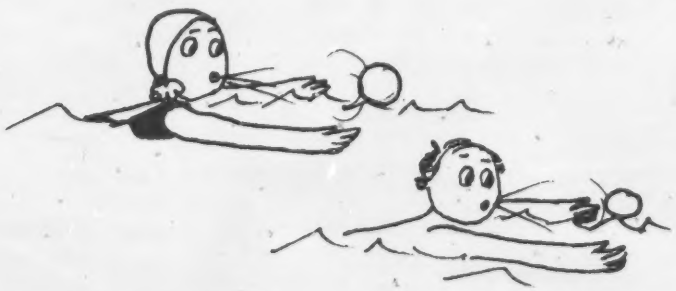


Water Wings. A piece of foam flutterboard laced around the arms will make excellent water wings, or floatation devices. Larger pieces of foam flutterboard can be used as floatation devices which can be strapped with clothesline around the waist.

Floor Mat. Outside of the water, strokes can be practiced on a floormat. These same activities can be practiced directly on the floor, a bed, or chair. In fact, students can be encouraged to practice on their own at home using a bed, chair, or floor.

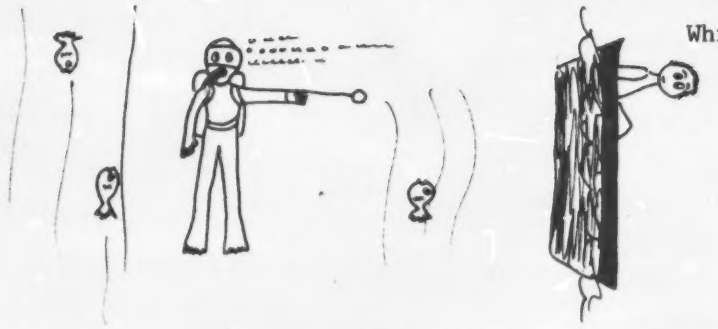
Exercise Bars. Lowering exercise bars into the water provides stable handrails for students to hold onto while practicing kicking or breath control.

Ping Pong Balls. A very nice characteristic of ping pong balls--besides the fact that they're rather useful in a game of table tennis--is that they are buoyant. A student can practice breath control by blowing a ping pong ball across the pool. In a very different setting--the ocean--a ping pong ball attached to a string can be tied to the wrist of a blind scuba diver.



This can provide immediate answer to an important question --

Which Way is Up?!?!



RESOURCES FROM AAHPERD AND IRUC

The Information and Research Utilization Center in Physical Education and Recreation for the Handicapped (IRUC) functions within the AAHPERD Unit on Programs for the Handicapped. Major purposes of this Center are to collect, categorize, describe, interpret, package/repackage and disseminate information about all aspects of physical education, recreation, and related areas for impaired, disabled, and handicapped persons. As a part of the Center's operation, IRUC Reprint Services functions to make available information about unpublished materials such as curriculum guides, program descriptions, conference proceddings, research reports, and selected journal articles. In addition, Topical Information Updates are published based on demand for a subject area. Below are listed selected reprints dealing with aquatic activities for the handicapped. Cost for items is based on 10 cents per page and all order must be prepaid except for official purchase orders over $10. Two Updates dealing with Aquatics for Handicapped Persons are available also (Update Number 16, December 1976, and Update Number 27, October 1978.) Each sells for $2.00.

Selected Reprints

Aquatics for the Impaired, Disabled, and Handicapped: Information Sheet. Washington, D.C.: IRUC, 1972. 31 pp. (IRUC Order # 2, $3.10).

Weiser, Ron, ed. Swimming Manual. Pomona, California: Pacific State Hospital, n.d. 57 pp. (IRUC Order #130, $5.70).

Lathy, Laurel, Monica Young, and Claudia Clarke, compilers. Programme Handbook: Swimming for the Disabled. Vancouver, British Columbia: Red Cross Society, Water Safety Service. B.C. Yukon Division (4750 Oak Street). (IRUC Order # 271, $2.90).

Aquatics Workshops. Longview, Washington: YMCA of Southwest Washington, 1975. 157 pp. (IRUC Order #278, $15.70).

Watch Me Learn to Swim--Instructor's Record Sheet. Town and Country, Missouri: Special School District of St. Louis County, n.d. 1 p. (IRUC Order #280, $.10).

Watch Me Swim--Instructor's Record Sheet. Town and Country, Missouri: Special School District of St. Louis County, n.d. 1 p. (IRUC Order #281, $.10).

Watch Me Swim. Town and Country, Missouri: Special School District of St. Louis County, n.d. 5 pp. (IRUC Order #282, $ .50).

Watch Me Learn to Swim. Town and Country, Missouri: Special School District of St. Louis County, n.d. 8 pp. (IRUC Order # 283, $ .80).

Allen, Rosemary B. Selective Swim Program 1975-76. Bremerton, Washington: the Author (11330 Kitsap Way, 98310), 1975. 18 pp. (IRUC Order #285, $1.80).

Patrick, George D. Behavior Modification Techniques in Aquatics. Paper presented at Council for National Cooperation in Aquatics Closed Workshop, Fort Lauderdale, Florida, November 14, 1975. 12 pp. (IRUC Order #290, $1.20).

Melvin, Linda. The Use of Games in the Aquatic Environment. Atlanta, Georgia: Georgia Retardation Center, n.d. 8 pp. (IRUC Order #302, $.80).

Noble, Susan. A Guide to Swimming Instruction for Developmentally Disabled Children. Boston, Massachusetts: Developmental Services Resource Project, Massachusetts Department of Mental Health (190 Portland Street, 02114), n.d. 128 pp. (IRUC Order #389, $12.80).

Martin, Peggy and Madeline Nichols. An Innovative Swimming Program for the Severely and Profoundly Mentally Retarded. Pineville, Louisiana: Pinecrest State School (P.O. Box 191), n.d. 24 pp. (IRUC Order # 516, $2.40).

National Multiple Society Guidelines for Development of Chapter-Sponsored Group Aquatic (Swimming) Programs for Persons with Multiple Sclerosis. New York (205 East 42nd Street, 10017), National Multiple Sclerosis Society, n.d. 7 pp. (IRUC Order #544, $ .70).

Melvin, Linda. Adapting Perceptual Motor Programs for the Aquatic Environment. Atlanta: Georgia Department of Human Resources (1260 Briarcliff Road, 30306), n.d. 34 pp. (IRUC Order $547, $3.40).

Therapeutic Swimming for the Multi-Handicapped. Final Report 1975-76. Clark County School District. Las Vegas, Nevada: Helen J. Stewart School, 82 pp. (IRUC Order #555, $8.20).

Wolf, Jan. Elementary Forms of Water Rescue. Minneapolis, Minnesota: Joint Independent School District # 287 (1820 Xenium Lane, 55541), 1976. 11 pp. (IRUC Order # 559, $1.10).

Canoeing. Minneapolis, Minnesota: Joint Independent School District # 287 (1820 Xenium Lane, 55441), 1976. 11 pp. (IRUC Order # 560, $1.10).

American Red Cross Swimming Color Book. Minneapolis, Minnesota: Joint Independent School District # 287(1820 Xenium Lane, 55441), 1978. 43 pp. (IRUC Order # 561, $4.30).

Fender, Linda. Aquatic/Swimming Orientation Manual. Bethany, Oklahoma: Children's Convalescent Hospital, January 1975. 29 pp. (IRUC Order # 1174, $2.90).

Horton, Patricia S. Development of a Swimming Program for a Children's Developmental Clinic Applied Project in Physical Education. Athens, Georgia: University of Georgia, Physical Education Department, 1973. 112 pp. (IRUC Order #1189, $11.20).

The American Alliance for Health, Physical Education, Recreation and Dance does not discriminate in any of its programs and activities on the basis of race, religion, color, national origin, sex, or handicapping conditions.